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Florida State Horticultural Society Elects First Lady President In 73 Years Existence

MRS. RUTH S. WEDGEWORTH,

of Belle Glade was elected president of this distinguished state society at its annual meeting held in Tampa in October, to become the the first lady to head this organization in its long history.

VOL. 41 — NO. 11 NOVEMBER, 1960 BARTOW, FLORIDA

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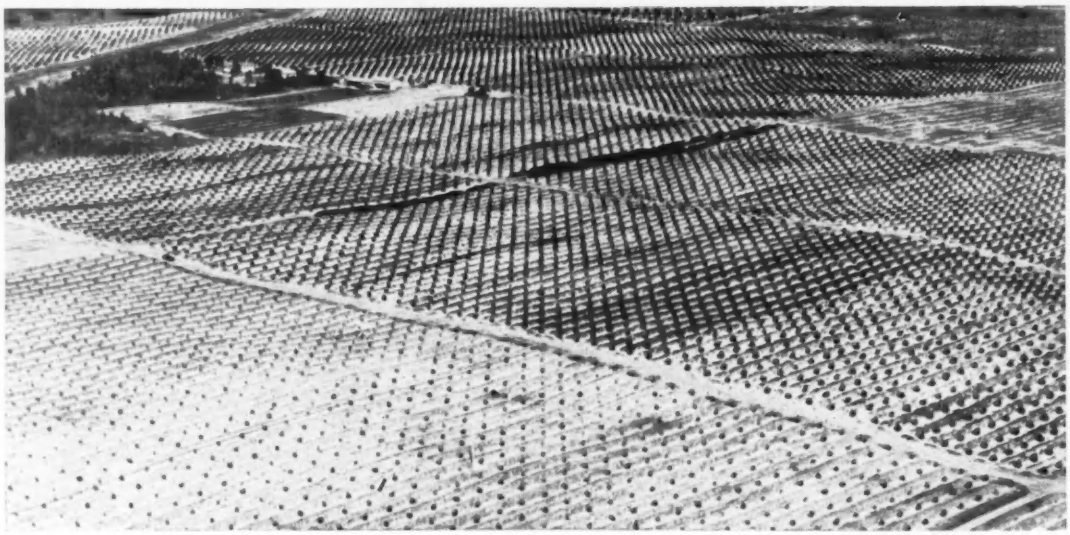

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Citrus Insect Control For Winter 1960-61

W. L. Thompson

W. L. Thompson
W. A. Simanton
R. B. Johnson

W. A. Simanton

Florida Citrus
Experiment Station
Lake Alfred,
Florida

R. B. Johnson

The months of November and December always bring a resurgence of several important citrus pests. Although the numbers of insects and mites present may be fewer than in summer, injury can be more severe because the trees are in a less vigorous state of growth. This year a high proportion of trees were weakened by Hurricane Donna. Where loss of leaves, loosening of roots, and rotting of roots due to excessive moisture occurred, a special effort should be made to prevent further weakening by insects, mites, and disease.

Rust mite and red scale are expected to be above average abundance and will be an immediate problem in many groves. Citrus red (purple) mite generally will be scarce in early winter but may build up rapidly following dry periods or after sulfur applications. Infestations of Texas citrus mite will be spotty in November, becoming more general as the season progresses. Regular checking for six-spotted mite should be started in January. The important new parasite **Aphytis lepidosaphes** is expected to keep purple scale populations at low levels in all districts, but some troublesome infestations may develop where repeated sulfur or lime-sulfur sprays are applied and a scalicide is not included in the program. Occasional checks should be made for chaff scale on fruit and for soft brown scale on leaves as these two species are more prevalent this year and normally increase in winter.

Damage by Hurricane Donna caused abundant fall flush, much of which was infected by melanose. Dead wood also is abundant to harbor the infection. Although later weather conditions will have a great influence on the disease picture, winter is a good time to plan for melanose and scab control where these troubles threaten.

Spray Program

This year the late fall and winter spray program will mostly be confined to mite control. Red scale control may be necessary in some groves.

SCALE AND MITE ACTIVITY BY DISTRICTS*

District	Purple Scale	Red Scale	Purple Mite	Rust Mite
West Coast	.84	1.51	.77	2.40
Indian River	1.59	1.93	.33	1.00
Upper East Coast	1.64	1.51	.67	.67
Gainesville	0	.99	.34	1.00
Orlando	1.26	1.37	.25	.61
Brooksville	.92	1.28	.50	.75
Ridge	.77	1.26	0	1.64
Bartow	.97	.78	.09	1.09
State Average	1.08	1.35	.31	1.13
Last Year	.93	1.61	.73	1.45

* Second week in October. Activity is computed from populations, number of groves with increasing or decreasing infestations and percentage of scales in the settled crawler stage. In this table, activity is considered high if above 2.0 for purple scale, 1.0 for red scale and 1.5 for mites.

A check for grasshoppers should be made following cultivation in young groves because grasshoppers are likely to move from the cover crop and attack citrus. Twigs will die if defoliated at this time of year. Also check for plant bugs on early varieties of oranges and tangerines where the citron melon is present or a leguminous cover crop was grown. Plant bugs can cause severe fruit drop. In groves damaged by Hurricane Donna, inspect for dead twigs to determine whether a delayed dormant copper spray should be applied to protect the spring flush from melanose infection. December or January is a good time to check the groves for all mites, insects, diseases, and dead wood so an effective and economical spray program can be set up for 1961.

Mite Control

It is just as essential to control citrus rust mite during the winter months as at any other time because this mite may russet fruit whenever it becomes sufficiently numerous. The need for control of citrus red mite (purple mite) and Texas citrus mite is believed to be greater in winter than in summer. These red spiders cause more mesophyll collapse and together with rust mite, cause more firing and leaf-drop during winter months. It is true that firing may occur in the absence of mite injury whenever the weather is dry, cold and windy, but the damage is invariably more extensive where these mites have not been controlled. It is well to remember that defoliation in the winter usually means dead twigs and even dead limbs by spring.

The timing of sprays for mite control is as important as the selection of a miticide. Often there is a tendency to delay the application until after some damage has been done. Actually there is little rason to control mites after the fruit is blemished or the leaves start to drop because little or no damage is prevented and mites are usually about to decline in numbers without benefit of chemical control. Another common practice is to delay application until one or more species of mite is numerous with the idea of applying a clean-up spray just before any damage is done. This may be a workable procedure in some cases, but it never produces the longest possible control and often results in failure. On the other hand, it is not wise to spray when mite populations are at extremely low levels,

(Continued on page 18)

*Written October 24, 1960. Reports of surveys by Harold Holtsberg, Fort Pierce; J. W. Davis, Tavares; K. G. Townsend, Tampa; T. B. Hallam, Avon Park; and L. B. Anderson, Jr., Lake Alfred.

Daily Market Bulletin Available To Florida Citrus Growers . . .

Florida Citrus Mutual's daily market bulletin, mailed five days per week to Florida citrus shippers, processors and Mutual grower-members who request it, began publication for the 1960-61 season "around Oct. 1," Robert W. Rutledge, Mutual executive vice-president, said recently.

This marks the 12th season of publication of the bulletin, referred to by many as the "Price Bible of the Florida citrus industry." During the summer months the bulletin suspends publication with the exception of a few special editions mailed periodically.

During the season the bulletin, prepared by Mutual's Marketing Information Division, manned by Frank Trovillion and Roy Hunter, carries daily FOB packinghouse prices by size, information on what processors are currently paying for fruit, utilization figures and other market information.

Rutledge said that duing the 1959-60 season over 10,000 telephone and teletype contacts were made by the market information division with fresh fruit shippers, canners, concentrators and Mutual representatives in key northern markets to keep abeast with current, factual maketing information.

He said over 1,400 bulletins are mailed daily during harvesting season.

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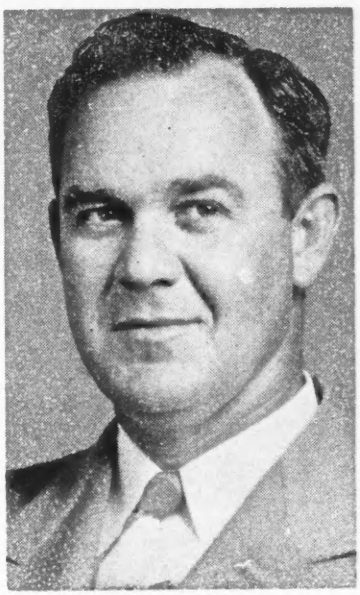
Some Aspects Of Banking Citrus Trees

. . . BY . . .



FRED P. LAWRENCE
CITRICULTURIST
FLORIDA AGRI. EXT. SERVICE
UNIVERSITY OF FLORIDA

Why Bank?

The desirability of banking young citrus trees to protect the trunk and bud-union from freeze damage is well established and has long been in practice in Florida. Certainly the need for it was clearly demonstrated during the winter of 1957-58, if at no other time. In normal years it is justified for its insurance value alone. If the season proves to be a really cold one, the saving of valuable trees far more than justifies the cost.

Hazards of Banking

Banking is a costly and time consuming operation and all too frequently the light sandy grove soil used in the banks is blown away on windy days, or washed away in rain storms; leaving tree trunks partially or entirely exposed. (Few growers actually make the banks sufficiently large in the beginning).

Then there are the possibilities of termites and bark rotting diseases killing the trees in the bank, not to mention the damage that can be caused by a reckless tractor driver using a mechanical tree banker.

When to Bank

The day before the freeze is best, but since this is usually not known until too late to do the job, it is the wiser policy to start in sufficient time to have all trees banked by November 15th. Actually, the first week in November should be the target date—this way you won't get caught with your banks down!

Avoiding Some Hazards in Banking

Start in time to do the job; allowing for unavoidable interruptions. If a mechanical banker is to be used, give the operator close supervision and training until he become proficient. This is cheaper than straightening "leaners", pruning off broken limbs and repairing "skinned-up" tree trunks. Trees with damaged bark at banking time are a liability. They are easy targets for disease.

There are a number of bark rotting fungi which may attack citrus trees during the long time they are in the bank. Because this type situation is very difficult to study research-wise under field conditions very little data has been published. In reporting on research in Texas citrus, Godfrey of the Texas Citrus Experiment Station has reported he obtained complete protection against these bark-rotting fungi through the use of cuprous oxide.

Mr. Godfrey suggests a thin paint made of cupricide at the rate of 3 oz. per gallon. The material is first made into a paste by adding a small amount of water and then diluted with the remaining water. The mixture must be stirred frequently since the copper is heavy and will settle out.

In his experiments the mixture was painted onto the trees. This mixture was reported to be much superior to Bordeaux because the Bordeaux flaked-off the trees whereas the reddish color of the cuprous oxide remained until after the trees were unbanked.

This material was reported as being compatable with chlordane and a combination of two-thirds ounce of

(Continued on page 9)

Effect Of Polyethlene And Wax Coatings, With And Without Fungicides, On Rind Breakdown And Decay In Citrus

Presented at Camp McQuarrie and at Oklahoma ASHS meetings.

BY PAUL L. DAVIS AND JOHN J. SMOOT,
U.S.D.A., ORLANDO, FLORIDA

INTRODUCTION

Rind breakdown and decay are two of the major problems of the citrus industry. One form of rind breakdown, pitting, occurs during storage. This has been described as sunken spots in the outside layer of the rind formed by a breakdown of the tissue (8). With age, or on exposure to warm temperatures, the spots gradually turn brown. Results obtained during the 1958-1959 season showed that rind breakdown could be substantially reduced by treatment with emulsions of polyethylene before storage (2). Since this treatment did not reduce decay, it was further studied in combination with certain fungicides and compared with fruit treated with a water emulsifiable wax and with wax plus fungicides.

Materials and Methods

The polyethylene emulsion concentrate contained 30 parts liquid polyethylene, 6 parts oleic acid, 6 parts morpholine, and water to make 20 per cent polyethylene. For treatment of grapefruit this concentrate was diluted to contain 10 per cent polyethylene, as was done in the previous season. It was found that treatment with solutions containing 5 per cent polyethylene gave a good coating for oranges and this concentration was used for the Pineapple and Valencia varieties. A commercial water emulsifiable wax[2] containing 18 per cent solids was used. This was diluted according to commercial practice to contain 9 per cent solids for treatment of both grapefruit and oranges.

The fungicides used in the tests were sodium orthophenylphenate with hexamine[3], a recommended combination (3, 6) used to a limited extent in the treatment of citrus, and propynyl N-phenylcarbamate, one of the more recent promising fungicides (7).

Fruits of Marsh grapefruit and Pineapple and Valencia oranges were obtained from trees on rough lemon rootstock, in commercial groves, near Plymouth, Florida. Marsh grapefruit were harvested in April, Pineapple oranges in January and February, and Valencia oranges in February, 1960.

The fruit was washed before treatment, and dipped singly into polyethylene or wax emulsion for 5 seconds. Each fruit was allowed to drain and then dried under a hot air dryer.

In the long-term storage tests, grapefruit was stored for 7 weeks at 40° F, a temperature known to induce rind breakdown (5). Oranges were stored for 8 weeks at 32° F. Inspections were made on removal from storage and after 3 and 7 days at 70° F for severity of rind breakdown and for decay. A holding period of 1 week accentuates decay (4) and emphasizes the value of added fungicides.

In order to simulate transit and handling conditions without storage, both grapefruit and oranges were held at 50° F for 6 days, then removed to 70° F. Inspections were made after 3 and 7 days at 70° F.

Rind breakdown was classified as slight if the total affected area was from 8 to 20 millimeters in diameter, moderate if from 20 to 32 millimeters, and severe if over 32 millimeters. Decay was classified as Penicillium decay when caused chiefly by the green mold **Penicillium digitatum** Sacc., and as stem-end rot when caused chiefly by **Diplodia natalensis** Pole-Evans, or by **Phomopsis citri** Fawe.

Results and Discussion

On removal from 40° F storage the untreated Marsh grapefruit had a

Table 1.—Rind breakdown and decay in Marsh grapefruit stored for 7 weeks at 40° F, and held at 70° F for 1 week. Data for decay are cumulative, data for rind breakdown are not cumulative.

Treatment	Number of fruit	Rind Breakdown			Decay	Sound
		Slight	Moderate	Severe		
		%	%	%	%	%
On removal from 40° F						
Untreated	96	20	4	2	0	74
Polyethylene[a]	96	2	0	0	0	98
Polyethylene + DH[b]	95	6	1	1	0	92
Polyethylene + carbamate[c]	96	26	5	4	0	65
Wax[d]	96	5	0	0	2	93
Wax + DH	97	11	1	1	0	87
Wax + carbamate	95	20	1	4	0	75
After 3 days at 70° F						
Untreated		35	13	6	3	43
Polyethylene		15	0	1	6	78
Polyethylene + DH		24	1	4	1	70
Polyethylene + carbamate		40	8	3	2	47
Wax		7	0	0	13	80
Wax + DH		16	2	1	2	79
Wax + carbamate		26	5	11	1	57
After 7 days at 70° F						
Untreated		35	7	4	17	36
Polyethylene		16	0	6	24	54
Polyethylene + DH		22	0	3	18	57
Polyethylene + carbamate		45	5	4	17	29
Wax		4	0	0	44	52
Wax + DH		10	1	3	19	61
Wax + carbamate		22	3	12	10	53

a Emulsions contained 10 per cent solids.
b One per cent Dowicide A (sodium orthophenylphenate) and 0.5 per cent hexamine.
c 0.75 per cent propynyl N-phenylcarbamate.
d A commercial water emulsifiable wax. Emulsions contained 9 per cent solids.

1 Supplied by Allied Chemical Corporation.
2 Citrashine, American Machinery Corporation.
3 Dowicide A + hexamine.

total of 26 per cent rind breakdown (Table 1). Fruit treated with polyethylene or wax had only 2 and 5 per cent rind breakdown respectively. These results are in agreement with those of Brooks and McColloch (1) who found that waxing reduced pitting in stored grapefruit. When sodium orthophenylphenate-hexamine was added to polyethylene and wax, the breakdown was 8 and 13 per cent. When propynyl N-phenylcarbamate was added, however, the incidence of rind breakdown was higher, indicating the possibility of a phytotoxic effect with this material. After holding for 7 days at 70° F fruit treated with wax alone had the most decay, 44 per cent, and fruit treated with wax plus propynyl N-phenylcarbamate had the least decay, 10 per cent.

The behavior of Pineapple and Valencia oranges followed a similar pattern after long-term storage at 32° F. Polyethylene and wax coatings clearly reduced rind breakdown during storage (Tables 2 and 3). Untreated Pineapple oranges had a total of 27 per cent rind breakdown 3 days after removal from storage, whereas polyethylene-treated fruit had 11 per cent, and wax-treated fruit had 5 per cent. While untreated Valencia oranges had 22 per cent total breakdown 3 days after removal from storage, polyethylene- and wax-treated fruit had only 2 and 1 per cent respectively. At the end of the 7-day holding period at 70° F Pineapple oranges treated with polyethylene and sodium orthophenylphenate-hexamine had half as much decay as the untreated fruit. Valencia oranges treated with wax had the most decay, 9 per cent, while those treated with either polyethylene or wax plus prophyl N-phenylcarbamate had no decay.

Decay was reduced by both sodium orthophenylphenate-hexamine and propynyl N-phenylcarbamate under simulated transit and holding conditions (Table 4). This was most noticeable in the test with Pineapple oranges. Untreated fruit had a total of 17 per cent decay after 1 week at 70° F, while fruit treated with both polyethylene and wax with added sodium orthophenylphenate-hexamine had only 1 per cent each, and that treated with wax pdus propynyl N-phenylcarbamate had only 3 per cent. These tests were allowed to continue an extra week by holding the fruit at 70° F. By this time untreated Pineapple oranges had 37 per cent decay while fruit treated with wax plus propynyl N-phenylcarbamate still had only 3 per cent decay. Fruit treated with polyethylene plus sodium orthophenylphenate-hexamine had only 5 per cent and that treated with wax plus the same fungicide had only 9 per cent.

These results were substantiated by 5 other tests involving over 3,500 fruits. The tests were essentially the same, except that not all treatments were used in each experiment.

Weight losses were determined on 10-fruit samples of oranges weighed individually. During 7 days at 50° F, untreated fruit and fruit treated with polyethylene lost 1.5 per cent in weight, and fruit treated with polyethylene plus sodium orthophenylphenate-hexamine lost 1.8 per cent. During 7 days at 32° F, untreated fruit lost 1.0 per cent; polyethylene-

(Continued on page 9)

Table 2.—Rind breakdown and decay in Pineapple oranges stored for 8 weeks at 32° F, and held at 70° F for 1 week. Data for decay are cumulative, data for rind breakdown are not cumulative.

Treatment	Number of fruit	Rind Breakdown			Decay	Sound
		Slight	Moderate	Severe		
		%	%	%	%	%
On removal from 32° F						
Untreated	292	9	1	0	0	90
Polyethylene[a]	309	3	0	0	0	97
Polyethylene + DH[b]	311	2	0	0	0	98
Wax[c]	309	0	1	0	0	99
Wax + DH	314	4	0	0	0	96
After 3 days at 70° F						
Untreated		18	4	5	2	71
Polyethylene		7	0	4	0	89
Polyethylene + DH		13	0	4	0	83
Wax		3	2	0	1	94
Wax + DH		9	0	1	0	90
After 7 days at 70° F						
Untreated		15	1	1	35	48
Polyethylene		7	0	0	24	69
Polyethylene + DH		16	0	2	16	66
Wax		5	0	0	54	41
Wax + DH		9	0	0	34	57

[a] Emulsions contained 5 per cent solids.
[b] One per cent Dowicide A (sodium orthophenylphenate) and 0.5 per cent
[c] A commercial water emulsifiable wax. Emulsions contained 9 per cent solids.

Table 3.—Rind breakdown and decay in Valencia oranges stored for 8 weeks at 32° F, and held at 70° F for 1 week. Data for decay are cumulative, data for rind breakdown are not cumulative.

Treatment	Number of fruit	Rind Breakdown			Decay	Sound
		Slight	Moderate	Severe		
		%	%	%	%	%
On removal from 32° F						
Untreated	164	0	0	1	0	99
Polyethylene[a]	174	1	0	0	0	99
Polyethylene + DH[b]	175	1	0	0	0	99
Polyethylene + carbamate[c]	171	1	0	0	0	99
Wax[d]	172	1	0	0	0	99
Wax + DH	173	0	0	0	2	98
Wax + carbamate	170	1	0	0	0	99
After 3 days at 70° F						
Untreated		19	2	1	1	77
Polyethylene		2	0	0	0	98
Polyethylene + DH		8	0	0	0	92
Polyethylene + carbamate		4	1	0	0	95
Wax		1	0	0	1	98
Wax + DH		2	0	0	2	96
Wax + carbamate		2	0	0	0	98
After 7 days at 70° F						
Untreated		26	2	2	6	77
Polyethylene		4	0	0	1	95
Polyethylene + DH		16	0	0	2	82
Polyethylene + carbamate		9	0	1	0	90
Wax		2	0	0	9	89
Wax + DH		3	1	0	5	91
Wax + carbamate		5	0	0	0	95

[a] Emulsions contained 5 per cent solids.
[b] One per cent Dowicide A (sodium orthophenylphenate) and 0.5 per cent hexamine.
[c] 0.75 per cent propynyl N-phenylcarbamate.
[d] A commercial water emulsifiable wax. Emulsions contained 9 per cent solids.

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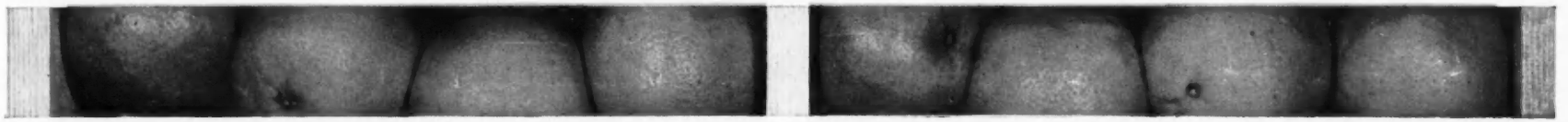

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SOME ASPECTS OF BANKING CITRUS TREES

(Continued from page 5)

a 40 percent wettable chlordane powder added to each gallon of the cuprous oxide paint gave very effective control of both termites and fungi.

A third hazard to take into consideration prior to banking is the removal of dead or broken branches and paint all bark lesions with a water repelling pruning paint. This seldom thought of practice will be most important this year as there are many trees that were damaged in the '58 freeze that still have dead areas remaining on the lower part of the tree trunk.

Banking

Use only soil that is free of trash, cover crop, bags, woods, etc. Build the banks high. The 58-59 freeze taught us that the higher the bank the better — within reason. The bud union is the "Achilles heel" of the young citrus tree and the more soil around and above it the more likely it is to survive. It is a good practice to bank young trees well above the scaffold limbs. Certainly a quicker and better top can be re-grown with shoots from the framework branches.

Stabilizing the Bank

This is always a problem and many techniques and materials have been used. Vulconol, a watersoluble plastic-type material has given reasonably good results when sprayed on newly constructed banks.

Rye grass seeds mixed in the outer soil of the newly constructed banks were of little value.

Possibly the best in so far as a permanent structure was the banks built using a cylinder formed of heavy-gauge roofing paper.

Removing the Banks

Young trees should be unbanked in the spring just as soon as damaging cold weather has passed. Usually this is in late February.

One of the most common mistakes made in unbanking young trees is the failure to completely unbank the trees. Growers and production managers should supervise this operation more closely; as there is an increasing tendency to leave too much soil around the young tree.

PERSISTENCE PAYS

The following is told of Sir Winston Churchill when he was connected with the Admiralty. An American newspaper reporter was granted an interview.

"I've turned down seven of your compatriots this morning," exclaimed Churchill, nodding toward a pile of visiting cards.

"I know," replied the American, "I'm them!"

THANKS . . .

Let us be thankful for the fools. But for them the rest of us could not succeed.

EFFECT OF POLYETHYLENE AND WAX COATINGS, WITH AND WITHOUT FUNGICIDES, ON RIND BREAKDOWN AND DECAY IN FLORIDA CITRUS*

(Continued from page 7)

treated fruit 1.1 per cent; and fruit treated with polyethylene plus sodium orthophenylphenate-hexamine lost 1.7 per cent.

Summary

Rind breakdown of Marsh grapefruit and Pineapple and Valencia oranges was reduced substantially by treatment with emulsions of polyethylene or water-wax before storage. Both coatings were compatible with sodium orthophenylphenate-hexamine and propynyl N-phenylcarbamate in that Penicillium decay and stem-end rot were reduced in fruit treated with polyethylene or wax containing either fungicide. Both fungicides caused some increase in rind breakdown during long-term storage.

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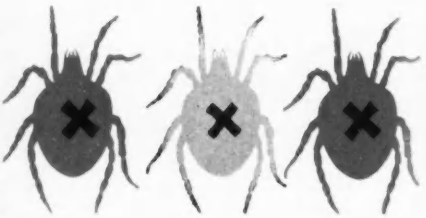
Table 4.—Decay in Marsh grapefruit and in Pineapple and Valencia oranges held for 6 days at 50° F. and then at 70° F for 1 week. Data are cumulative.

Treatment	Marsh			Pineapple			Valencia	
	Number of fruit	Penicillium decay	Stem-end rot	Number of fruit	Penicillium decay	Stem-end rot	Number of fruit	Penicillium decay	Stem-end rot
		%	%		%	%		%	%
After 3 days at 70° F									
Untreated	95	0	0	193	4	0	170	1	0
Polyethylene[a]	95	0	0	220	2	0	174	0	0
Polyethylene + DH[b]	96	0	0	215	0	0	173	0	0
Polyethylene + carbamate[c]	96	0	0	—	—	—	173	0	0
Wax[d]	94	1	0	222	4	0	171	0	0
Wax + DH	95	1	0	205	0	0	174	0	0
Wax + carbamate	96	0	0	202	1	0	170	0	0
After 1 week at 70° F									
Untreated		1	2		10	7		5	1
Polyethylene		1	0		7	6		1	0
Polyethylene + DH		0	0		1	0		0	0
Polyethylene + carbamate		0	0		—	—		0	0
Wax		3	1		10	5		1	0
Wax + DH		1	0		0	1		1	2
Wax + carbamate		0	0		3	0		0	0

a Emulsions contained 10 per cent solids for grapefruit and 5 per cent solids for oranges.
b One per cent Dowicide A (sodium orthophenylphenate) and 0.5 per cent hexamine.
c 0.75 per cent propynyl N-phenylcarbamate.
d A commercial water emulsifiable wax. Emulsions contained 9 per cent solids for both oranges and grapefruit.

KELTHANE KILLS MITES



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"This Business of Citribusiness"

. . . BY . . .
E. W. CAKE
MARKETING SPECIALIST,
AG. EXTENSION SERVICE
UNIVERSITY OF FLORIDA

Citribusiness is a new word. Apparently the word was coined by Lake County Agent, Bob Norris, and Extension Citriculturist, Fred Lawrence. They "invented" it as they were planning the 1960 Citrus Institute program for Camp McQuarrie. They define the word as meaning the citrus industries share of Florida's "Agribusiness".

Since Agribusiness is a relatively new word, maybe we need to define that also. It is a word coined by Dr. John Davis of the Harvard School of Business a few years ago. By definition the word means all production on farms, plus all business which is primarily dependent on farming. These dependent businesses include production and distribution of farm supplies and equipment, as well as marketing, processing, storing, distribution and retailing of farm products.

We can say that "Agribusiness" is a good word because it denotes the interrelationship of Agriculture and industry. It ties farm and city together. Certainly farmers as a group need to impove their public relations after all the unfavorable publicity they have received in recent years. The concept of agribusiness can help accomplish this. City folks need to think about all the allied businesses that depend on farming. They need to know that the value of farm products, on the average, is increased three-fold as they pass from farmer to consumer.

So we in Florida agriculture, just like the farm folks in other states, are talking a lot about agribusiness these days. Here at the Agricultural Economics Department at the University we have done a little plain and fancy estimating on the value of Florida farm products at various levels of trade. Here's what these figures look like for 1959.

The farm value of Florida's agriculture production, not including commercial forestry was 828 million dollars last year. (Table 1) Of this, about 350 million dollars was citrus products, 158 million truck crops, 197 million livestock products, and 122 million other farm products, mostly field crops and ornamentals.

We have figured the agribusiness value of our Florida Crops at two different levels. Some say that Florida agriculture should not take any credit for value added to our crops after they cross the state line. So we have figured a "Florida Agribusiness value" which appears in column two of the tables shown with this article. This is the value of the fresh or processed products packed in usual containers and cases as they cross the state line. It even includes estimated cost of transportation to the state line.

We have also figured the "total agribusiness value" of our various Florida crops at retail wherever they are sold. The figures appear in column three of the tables shown with this article.

Now here is where our "Citribusiness" term can be applied. Remember, we said in the beginning that Citribusiness means the Citrus industries share of Florida's agribusiness.

In keeping with our explanation above, we have two citribusiness figures to offer. One is the value of citrus products at the state line which we will call the "Citribusiness value in Florida". This figure for 1959 was 500 million dollars. It is nearly 40 percent of the Florida agribusiness value for all crops at the state line, which was 1-1/3 billion dollars in 1959.

The other Citribusiness figure might be called the "retail citribusiness value". This figure for 1959 was 900 million dollars. It is an estimate of the retail sales value of all Florida citrus products wherever sold. The 900 million dollars was more than 40 percent of the total retail agribusiness value for all Florida crops in 1959, which was 2.1 billion dollars.

Whether we use the citribusiness value at the state line of 500 million dollars, or the retail citribusiness value of 900 million dollars is a matter of preference. It depends on whether you think our growers should have part of the credit for transportation, wholesaling, advertising, retailing, etc. after our citrus products leave Florida. Either figure is mighty big business.

We in agriculture say that agribusiness is Florida's largest business. It is a little ahead of either tourism or other manufacturing as a generator of income in Florida. Then we add that citribusiness is the largest segment of our states agribusiness, far more important than the agribusiness value for any other group of farm commodities.

Some will be interested in what part of the citribusiness value is accounted for by oranges, grapefruit and other citrus fruit. Of the 500 million dollar citribusiness value at the state line, oranges account for 375 million dollars, grapefruit account for 105 million dollars, and other citrus fruit 20 million dollars.

Of the 900 million dollar retail citribusiness value, oranges are responsible for 675 million dollars, grapefruit 185 million dollars, and other citrus 40 million dollars. In each case, oranges account for 75 percent of the citribusiness value, grapefruit for 21 percent, and other citrus for about 4 percent.

Farm Value and Agribusiness Value All Florida Crops, 1958-59 Season

TABLE 1

Crop	Millions of Dollars		
	Farm1	Florida2	Retail3
Citrus	350	500*	900*
Vegetables	158	285	460
Livestock	197	325	350
Other	122	225	450
TOTAL	828	1335	2160

1—"Farm"—farm value, which is the value of crops delivered at packing houses, processing plants, or other similar local places.

2—"Florida"—agribusiness value in Florida, which is the value of products as they cross the state line, or are sold at retail in Florida.

3—"Retail"—retail agribusiness value, which is the value at retail wherever sold.

*These figures include estimates for the value of citrus pulp, citrus molasses and other citrus by-products.

Farm Value and Agribusiness Value, (or "Citribusiness" Value) of Florida Citrus Crop 1958-59 Season

TABLE 2

Crop	Millions of Dollars		
	Farm1	Florida2*	Retail3
Oranges	288	375	675
Grapefruit	50	105	185
Other	12	20	40
TOTAL	350	500	900

1—"Farm"—farm value, which is the value of crops delivered at packing houses, processing plants, or other similar local places.

2—"Florida"—agribusiness value in Florida, which is the value of products as they cross the state line, or are sold at retail in Florida.

3—"Retail"—retail agribusiness value, which is the value at retail wherever sold.

*These figures include estimates for the value of citrus pulp, citrus molasses and other citrus by-products.

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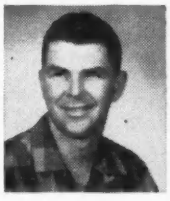
Manager of North Florida Branch of Calspray located in Orlando. Received his B. S. degree in agriculture from University of Florida. Call Cliff at Winter Garden Branch Office, OL 6-2626.

CHARLES ASHLEY

Received his B. S. in entomology from Auburn. Worked three years citrus spraying and two years as a laboratory assistant before joining Calspray. Resides in Leesburg, phone ST 7-2063.

WEBSTER CARSON



Joined Calspray in 1956 after receiving his B. S. degree in agriculture from University of Florida. Resides in Plant City—contact him by calling 3-8351.

JEAN MABRY

Served as an entomologist for two years with the U. S. Army before joining Calspray in 1955. Received his degree in agriculture from U. of Florida. Jean resides in Lakeland. Call MU 6-4515.

J. S. MURPHY

Received his degree in agriculture from University of Florida. Before joining Calspray in 1955, worked at Citrus Experiment Station. Resides in Lake Alfred, phone FR 2-1422.

JOHN NOWELL

Received his B. S. degree in agriculture from University of Florida. Joined Calspray in 1955. John lives in Orlando. Reach him at GArden 4-6754.

RANDALL WILLIAMS

Randy sold livestock and poultry feeds before joining Calspray in 1957. Received his degree in agriculture from University of Florida Resides in Deland. Reach him by calling RE 4-0599.

History of Florida Hurricanes

-- 1944 through 1960 --

BY JOHN SIKES
FLORIDA CITRUS MUTUAL

When Nature throws a destructive tantrum, such as in Hurricane Donna, the folks begin almost reflexively scouring their memories to recall their previous dates with the devastating Dame.

Even before Donna had panted herself to complete exhaustion up North somewhere, Florida Citrus Mutual, came out with a printed chart which traced the paths of all the major hurricanes which howled our way from 1926 through 1957, with a listing of citrus losses in each blow.

October 1944

Just about a month less than 16 years ago, the Mutual look-back shows, Florida citrus took its worst beating in the generation before Donna. Oct. 18-19, 1944, a hurricane raged up out of the Gulf of Mexico, entered Florida along about Sarasota and roared straight up through the interior citrus belt on a course to the westward of Donna's.

That one's eye missed DeSoto, Hardee and Polk, three of the big citrus counties struck hardest by Donna, but it blew off 21,000,000 boxes of oranges, grapefruit and tangerines, much of which was of marketable maturity.

September 1947

There was one in 1947, Sept. 17-18, that picked 6,000,000 boxes of citrus, although it eyed its way across a relatively small far southern part of the state, coming in from the Atlantic in Broward County just north of Miami and moving into the Gulf from Collier County. The side effects must have caused all the citrus damage in that one.

August 1949

Aug. 26-27, 1949, a big blow came in near Palm Beach and cut a northwesterly swath up through the state huffing 14,000,000 boxes of citrus off our trees.

Fruit Lost

The Mutual chart traces only the major hurricanes for the aforementioned generation, and here are the dates and citrus losses of same: Sept. 18-19, 1926, slight loss; Sept. 16-18, 1928, 1,000,000 boxes; Sept. 3-6, 1933, 4,500,000 boxes; Sept. 2-4, 1935, moved along Gulf Coast with little, if any, effect on citrus; Oct. 6-7, 1941, slight; Oct. 18-19, 1944, 21,000,000 boxes; Sept. 15-16, 1945, 4,000,000 boxes; Oct. 6-8, 1946, 2,000,000 boxes; Sept. 17-18, 1947, 6,000,000 boxes; Oct. 11-12, 1947, slight; Sept. 21-22, 1948, considerable tree damage on Lower East Coast; Oct. 4-5, 1948, slight; Aug. 26-27, 1949, 14,000,000 boxes; Sept. 1-7, 1950, slight; Oct. 17-18, 1950, 2,500,000 boxes.

Federal Crop Estimate Indicates $300 Million Crop

Federal crop estimates released recently indicate a highly profitable citrus season is in the making.

Hurricane Donna left enough fruit on the trees — and took enough off — to give promise of a year setting an all-time record in grower returns, according to Robert W. Rutledge, executive vice president of Florida Citrus Mutual.

A record year would mean nearly $300 million in on-tree value for the crop. Rutledge noted the previous record of $292 million was set in the 1958-59 season.

The estimate by the U.S. Department of Agriculture placed 90.5 million boxes of oranges and 30 million boxes of grapefruit on the trees.

Despite severe hurricane losses, the estimated crop of both oranges and grapefruit closely approaches last season's actual yield. There were 91.5 million boxes of oranges and 30.5 million boxes of grapefruit harvested during the 1959-60 season.

Higher Prices Seen

Rutledge predicted higher prices for both types of fruit this year.

Biggest surprise in the crop estimate was the 30-million-box figure for grapefruit. This estimate tended to confirm suspicions of many in the industry that Hurricane Donna bailed grapefruit growers out of trouble by knocking off a lot of fruit that would have gone unsold anyway.

General manager Homer Hooks of the Florida Citrus Commission said USDA loss estimates of between 12 to 14 million boxes of grapefruit indicated there may have been 42 to 44 million boxes on the tree—nearly one-third more than was successfully utilized last year.

Hooks added the Oct. 1 estimate indicated a 10-million box loss of oranges due to the hurricane—or total hurricane damage of between 22 and 24 million boxes.

Rutledge indicated he believed the grapefruit crop estimate was too high.

"While we believe the orange estimate to be a good indication of the crop size, we believe the grapefruit estimate is too high," he said.

Although he sometimes gets steamed up when USDA crop estimates run higher than expected, Rutledge was all smiles today.

He explained his good humor and his prediction for a record grower return by noting that the total U.S. estimate of oranges, grapefruit and tangerines was 169 million boxes—much less than the 177 million boxes of fruit produced in 1958-59 when high prices brought the highest grower return to date—292 million dollars.

"Demand Strong"

"Demand for citrus in all forms is exceptionally strong," he said. "Frozen orange concentrate is setting new sales and usage records week by week. Consumer purchases of frozen orange concentrate are 29 per cent greater than to date for the same period last year.

"Even though the overall Florida citrus prospects are so bright," Rutledge continued, "it is regrettable that many individual growers will not share equitably in the prospective record returns because of their tremendous fruit losses in Hurricane Donna."

Hooks also was optimistic about the season, but he inseted a note of caution in his statement. He warned that actual picking in the weeks ahead may disclose either greater damage to the fruit or a heavier crop than expected.

The estimate for the tangerine crop was 4,200,000 boxes, slightly more than last year's Oct. 1 estimate of 4 million boxes and considerably more than last year's freeze-marred harvest of 2,800,00 boxes.

Fewer Temples Seen

The estimate on early and mid-season oranges is 47 million boxes, compared with last season's yield of 45.1 million. The Temple orange crop is expected to total 3.5 million boxes, down 400,000 from last year. The Valencia or late-season orange crop was set at 40 million boxes, 2.5 million short of the 1959-60 yield.

The 30 million box figure for grapefruit comes from an anticipated harvest of 18.5 million boxes of seedless varieties and 11.5 million boxes of seeded grapefruit. This compares with 20.1 million boxes of seedless and 10.4 million boxes of seeded grapefruit last year.

Federal authorities predicted the California crop, excluding Valencias, would total 11 million boxes. This compares with a 13.5 million box harvest last season. The first estimate on Valencias will be made in December.

The estimate for Texas grapefruit was 6.7 million boxes, up 1.5 million, and Arizona grapefruit 2,570,000 down 650,000 boxes from last year.

USDA ANNOUNCES RESEARCH GRANTS TO ITALY AND ISRAEL

Research grants totaling nearly $160,000—one to the Agricultural Research Station at Beit-Dagan, Israel, and the other to the Giuliana Ronzoni Scientific Institute of Chemistry and Biochemistry in Milan, Italy—were announced recently by the U. S. Department of Agriculture.

The Israeli grant, valued at 132,600 Israeli pounds ($73,667), will finance a five-year study of the physiology of dormancy in buds and seeds and its relationship to fruit growing. The Italian grant, valued at 53,600,400 lire ($86,313) will support a five-year program aimed at gaining new knowledge of how cereal grains may be used to produce vitamin B_{12} (a growth factor) through fermentation.

The grants were awarded under a program financed by foreign currencies accruing to the credit of the U. S. from the sale abroad of surplus agricultural commodities under Public Law 480.

The research is administered by the foreign research and technical programs division of USDA's Agricultural Research Service

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Rutledge Predicts 12-16 Million Boxes Fresh Grapefruit This Season

ROBT. W. RUTLEDGE

Robert W. Rutledge, executive vice president of Florida Citrus Mutual, recently predicted that from 12½ to slightly over 16 million boxes of Florida grapefruit would be utilized in fresh channels this year, depending on the size of the crop.

Rutledge's "best economic utilization" schedule for the 1960-61 Florida crop reflects the 35 to 40 percent grapefruit loss which he estimated immediately following Hurricane Donna. His utilization forecasts are based on four crop sizes—from 24 million to 30 million boxes of grapefruit.

Rutledge said variables of production increased by the hurricane's effects make "the need now even greater than ever for a careful, responsible guide for the utilization of this season's crop."

"We believe Mutual's utilization schedule will prove invaluable to the grower in making his marketing decisions and will give the entire industry a realistic plan for orderly and profitable marketing of this season's crop," Rutledge said.

Rutledge predicted the following volume of fresh grapefruit utilization for various overall crop sizes:

If the crop is 24 million boxes then total fresh should utilize 12,540,000 boxes. If it is 26 million boxes total fresh should be 13,900,000 boxes. If it is 28 million boxes then fresh should be 15,025,000. If it is a 30 million box crop then 16,250,000 should go into fresh channels.

Rutledge indicated volume of other forms of utilization also depending on the size of the grapefruit crop, as follows:

Total cannery, other than concentrate, including single strength juice, salads and blend and sections: 9,160,000 to 11,010,000 boxes.

Total frozen grapefruit concentrate, including processed concentrate and concentrate blend: 1,305,000 to 1,640,000 boxes.

Total chilled, including juice, sections and salads: 995,000 to 1,100,00 boxes.

Last season, out of a total grapefruit crop of 30,500,000 boxes, fresh channels utilized 16,271,000 boxes with total cannery, other than concentrate, utilizing 11,496,000 boxes. Frozen grapefruit concentrate utilized 1,614,000 boxes with 1,119,000 boxes going into chilled juice outlets.

Effect On People Important Aspect Of Farm Program

BY SPUDS JOHNSON

Secretary of Agriculture Ezra Taft Benson is singing his swan song. No matter which party wins in November, he knows he will no longer be Secretary of Agriculture after the inauguration of the new president in January. But before bowing out, he is looking back over the past eight years to see what has been learned. "It seems to me we have learned some old lessons anew," he says.

"We have learned that the supreme test of any government policy is this: How will it affect the character, morale, and wellbeing of our people?

"We have learned that the future of agriculture and the preservation of a sound economic system depend upon the vigorous re-emphasis of the principles, benefits, and values of private competitive enterprise. No group in America is in a better position to contribute to this need than those who live on the farms and ranches of America.

"We have learned that price supports on storable commodities can be useful in providing protection to the producing farm and helping to stabilize national food supplies. But price supports which prevent production shifts toward a balanced supply in terms of demand—price supports which encourage uneconomic production and result in continuing heavy surpluses and subsidies—these must be avoided.

"We have learned that the principles of economic freedom are applicable to farm problems. We need a minimum of restrictions on farm production and marketing to permit the maximum of dependence on competitive free market prices as the best guides to production and consumption. Farmers should not be placed in a position of working for government bounty rather than producing for a free market.

"We have learned that inefficiency should not be subsidized in agriculture or any other segment of our economy. Relief programs should be operated as such—not as an aid to the entire agricultural industry. Emergency programs should be terminated as soon as the emergency is over.

"And above all, I hope we have learned anew that freedom is a God-given, eternal principle vouchsafed to us under the Constitution. It must be continually guarded as something more precious than life itself. A completely planned and subsidized economy weakens initiative, discourages industry, destroys character, and demoralizes the people. An uncorrupted citizenry builds a great State. No State ever built an uncorrupted citizen."

INDIAN RIVER SUB-EXCHANGE WILL SPEND $200,000 IN ADVERTISING

The Indian River Citrus Sub-Exchange, composed of 12 Indian River affiliate shippers of the Florida Citrus Exchange, has approved a 1960-61 citrus season advertising program which will cost the organization an estimated $200,000.00.

H. H. Willis, Sr., of Fort Pierce, chairman of the Sub-Exchange's advertising committee called the program one of the most hard-hitting advertising campaigns of the Sub-Exchange's long promotional history.

Highlights of the program will be three full-color advertisements in the Saturday Evening Post, billboard ads in Detroit and Philadelphia, continuing radio and television advertisements in the Northeastern part of the nation, and a full program of newspaper advertising in the Pittsburgh area.

Florida Frozen Juice Volume Shows Increase

U. S. consumers are currently spending nearly five million dollars per week for Florida's fozen orange concentrate, Robert W. Rutledge, Florida Citrus Mutual executive vice president, said recently.

"Consumers have spent an average of $4,893,000 per week for frozen orange juice this season through Sept. 10," Rutledge said. "This represents the first 41 weeks of the marketing season."

He said weekly purchases of concentrate for the like period have averaged 1,261,000 gallons which is a 29 percent increase over the same period last season.

"For the balance of the season, consumers need to buy each week 1,164,000 gallons of concentrate, spending $4,644,000 for the product in order to have a total inventory carry-over of 11 million gallons at Dec. 1, the end of the concentrator's marketing season," Rutledge said.

He said a record of 51.7 million gallons of concentrate has been purchased during the first 41 weeks of the marketing season at an average price of slightly over 18 cents per six-ounce can.

"The current FOB wholesale price for 12 six-ounce cans is $1.65 compared with $2.00 being paid at this time last season," Rutledge said. "For the first 41 weeks of the marketing season the price per 12 six-ounce cans has averaged $1.50."

"Average weekly movement to date is 1,702,000 gallons which includes domestic and export utilization," he said. "Last season to date average weekly movement was 1,366,000 gallons."

In order to leave end-of-season inventories at 11 million gallons of concentrate, total movement in all channels needs to average 1,244,000 gallons each week for the remaining 11 weeks of the marketing season, Rutledge said.

He said the total concentrate pack 78,149,000 gallons which is almost two for the 1959-60 season amounted to million gallons less than the record pack of 1958-59.

"It is clearly evident that total movement of sales for the 1959-60 season will amount to at least 83.5 million gallons, accounting for all the pack plus liquidation of 5.5 million gallons from beginning of season inventories, packed from the previous season's orange crop," Rutledge said.

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If you grow citrus or vegetable crops, or raise cattle on improved pastures, get the facts on Tracel limestone — the new, low-cost way to improve the quality and increase the yield of Florida groves, truck farms and pastures.

* All six minor elements—boron, iron manganese, zinc, copper and molybdenum—are combined in F. T. E. with slow solubility and resistance to toxicity on a **controlled, predetermined** basis.

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CITRUS INSECT CONTROL FOR WINTER 1960-61

(Continued from page 3)

chiefly because this removes any chance of eliminating an unneeded spray. Immediate spraying is not necessary where only 1 or 2 rust mites are found per lens field, but spraying should not be delayed where more are present. Sprays for citrus red mite and/or Texas citrus mite are best applied when about 15% of the leaves are infested.

The only satisfactory way to determine when to spray is to keep aware of mite populations by frequent inspections of each grove. Both fruit and foliage should be examined for rust mite; green twigs as well as leaves should be checked for citrus red mite and Texas citrus mite. In addition, tree tops as well as lower portions should be checked because mites tend to be more numerous in tops and southeast areas during the winter. As much attention should be paid to mite eggs as to the mites themselves because they often are a warning that a mite outbreak is imminent.

Generally speaking, it is poor economy to spray for only one species of mite in the hope that other mites will not become a problem. Spray to control rust mite and the red spiders when there are no more than 3 or 4 rust mites per lens field or when about 15% of the leaves are infested with citrus red mite and/or Texas citrus mite.

Now we come to the selection of a miticide. The materials available are of three types. First, there are the acaricides, Tedion, Systox, and DN Dry Mix No. 1 which are of value only against the red spiders; then there are the combination miticides, Trithion, Kelthane, and Delnav which are effective against both red spiders and rust mite; and finally, there are the rust mite miticides, zineb, Chlorobenzilate and sulfur. Tedion at 0.5 lb. per 100 gallon will give the longest control of citrus red mite and Texas citrus mite if applied as a preventative treatment when these mites are still hard to find. On the other hand, it is among the poorest when applied after mites become numerous unless accompanied by 0.5 lb. or pt. of Chlorobenzilate or a low dosage of another material such as parathion or malathion that will produce a quick clean-up. Tedion with Chlorobenzilate or zineb is thus preferred in September, October, and November when mites are not too numerous and control is required for the long interval before post-bloom. Its advantage over other materials decreases with time, however, because the chances of the combination miticides lasting until post-bloom improves as the interval between application and post-bloom becomes shorter. Thus the preferred material for control of both rust mite and red spiders during December and late November is 0.5 pint or 1.0 pound of Trithion per 100 gallons. After mid-December, however, Trithion, 1.0 to 1.5 pints of Kelthane or 1.0 pint of Delnav are all likely to control rust mite and red spiders until post-bloom.

DN Dry Mix No. 1 is the least effective of the miticides, especially during rainy weather. With few exceptions, this material will give long control only when applied extremely thoroughly to low mite populations with very few eggs. Actually, the use of DN should be confined to January and February when all that is needed is a short period of control. In addition, because of a lack of information on the fate of DN residues, it now appears that DN should be confined to trees without fruit. This decision is the result of a recent critical re-examination of all chemicals used on Florida citrus to determine whether normal use could result in residues in dried citrus pulp and eventually in milk.

DN Dry Mix does not control rust mite and must be supplemented with Chlorobenzilate or sulfur. The mixture of DN and zineb is not recommended because it not only does not last as long as DN and sulfur or Chlorobenzilate, but it causes a pronounced abnormal increase in citrus red mite at the end of control period.

Systox is more effective than DN Dry Mix No. 1 and only slightly less effective than Kelthane. It does not control rust mite and is a hazardous material.

Scale Control

Dormant scalicides are usually not recommended, but control may be necessary where there is a medium to heavy infestation of scale. Before applying miticides, it would be well to inspect for red scale and, if it is noticeable, supplement the miticide spray with a scalicide.

Either 0.25 pound of actual parathion or 1 to 1.25 pounds of actual malathion per 100 gallons is recommended for fall and winter scalicides. Oil is a shock to trees, makes them more susceptible to cold weather, and may cause them to have a light bloom next spring. Oil does not cause fruit to regreen after it is colored, but if it has not fully colored, the oil will retard or prevent degreening, especially of Valencias. If oil is used on any variety, delay the application until just before growth starts or when there is pin point growth. The longer the oil is delayed the less chance there is of cold weather damage and the bloom is not so likely to be affected. After the young leaves have formed, both oil and parathion are likely to cause injury.

There is a waiting period between spraying and harvest of 14 days with parathion and 7 days with malathion. Parathion and malathion can be mixed with most spray materials, but a mixture of parathion and DN Dry Mix may cause leaf drop and injure the peel on the lower part of the fruit where the spray drops collect.

Grasshopper Control: Parathion at 0.45 pound actual per acre will give a quick kill of grasshoppers, but it has no residual effect. Chlordane, toxaphene, lindane, and dieldrin are materials that give longer control, but should not be applied to trees with fruit until the question is answered as to whether chlorinated hydrocarbons get into the milk from cows fed citrus pulp.

Plant Bug Control: Plant bugs can be controlled with parathion at 0.25 pound actual per 100 gallons. The chlorinated hydrocarbons are effective, but should not be used as explained under grasshopper control.

Scab Control: Scab control is important on Temples, tangelos, and on some varieties of lemons and grapefruit in the coastal areas. Scab control depends upon a thorough coverage of a copper applied just before growth starts or at pin point growth. Use a copper compound at 0.75 pound of metallic copper per 100 gallons and if scab is severe, double that amount. Ferbam at 1.5 to 2 pounds per 100 gallons can be used instead of copper on trees without any fruit. Ferbam is registered for use only on trees that do not have fruit.

Melanose Control: In areas where Hurricane Donna was severe there may be a considerable amount of dead wood that will be a source of melanose infection on spring growth. A delayed dormant copper will help to prevent some melanose infection on the young foliage.

Nutritional Sprays: Zinc and manganese compounds can be applied either in January or post-bloom. Where a dormant copper application is to be made, these compounds can be added at that time to eliminate complications when the post-bloom spray is applied.

LIFE BEGINS AT—

You have reached middle age when the girl you smile at thinks you're one of her father's friends.

New Process Of Treating Concentrated Citrus Juice

A process for improving the flavor of citrus fruit juices by reducing their acidity has been developed by Florida Citrus Canners Cooperative and will be used this season on some of its packs of grapefruit juice.

R. W. Kilburn, the cooperative's research director who invented the process, says it works equally well on orange juice, that it will greatly reduce sugar costs in packing canned juices and make possible packs of frozen citrus concentrates which are of more uniform quality and better flavor.

The principle of the process, known as electro-dialysis, is similar to some methods developed by the Federal government for desalting sea water. Dr. H. P. Gregor, of Brooklyn Polytechnic Institute, who has worked on such government projects, collaborated with Mr. Kilburn in developing equipment for de-acidifying citrus and other fruit and vegetable juices.

"The machine is the first commercial application of a new plastic film developed for the investigation of various methods of desalting sea water," said Mr. Kilburn. The film, highly effective in removing citric acid from grapefruit juice, is pierced by a vast number of holes so small they are invisible, even under a microscope. The holes are so tiny the plastic is water tight and liquids will not flow through them.

"However, materials dissolved in water pass readily through the holes to the other side of the membrane where they are flushed out of the system. The film is given a special chemical treatment to charge it electrically so that only the desired dissolved materials pass through the holes. Special film has been made to remove citric acid from citrus juice.

"Vitamins, minerals, protein, flavor, color and all other desired components remain in the juice. The machine is essentially a big plastic sandwich of thin compartments, separated from each other by the specially prepared plastic film. Alternate compartments containing flowing juice are separated by solution chambers to flush citric acid out of the system after it is separated from the juice. The juice passes rapidly through the machine in the matter of seconds and is ready for canning after it has been tested.

"The process improves the flavor of grapefruit juice to a startling extent. Removing a portion of the acid in the juice not only makes it less tart but also makes it taste milder and sweeter. The flavor of treated juice is far superior to the old-style sugar-added juice."

Marvin H. Walker, the cooperative's general manager, believes the process may prove to be the most important development in citrus processing since the introduction of frozen orange concentrate.

"If we can improve the taste of citrus juices we can increase their sale, and if we can pack juices from acid fruit with less sugar or without any sugar we can greatly reduce packing costs," he said. "The cost of removing citric acid from juice by this process is only a fraction of the present cost of adding sugar to many juice packs.

"Mr. Kilburn's research on this process started some years ago, when we were trying to find ways to make canned gapefruit juice more acceptable in taste. We became intensely interested in it after the 1957-58 freezes and we have vigorously pursued investigations and development work since then.

"In March 1958, after the freezes that season, Valencia oranges were falling from the trees. While they passed maturity tests they were still too acid for concentrate packs. Mr. Kilburn took the juice of some of those acid oranges and, in a laboratory test, increased its sugar-acid ratio so it tasted like the juice of fully-ripe oranges. That test convinced us of the great possibilities of the process.

"We are not equipped to run all of our juice through the machine at this time, but the facilities will be thoroughly tested on early juice packs and can be rapidly expanded during the season."

JOHNSTON NAMED SALES MANAGER FOR SNOW CROP FROZEN CONCENTRATES

Fred S. Johnston, formerly with the merchandising department of the Florida Citrus Commission, has been appointed a division sales manager for Snow Crop Frozen Concentrates. He will be headquartered in Coventry, Conn.

The announcement of Johnston's appointment was made by A. J. Thurman, Director of Sales for Snow Crop Frozen Concentrates.

For your important *beginning* fertilization of the crop year, Superior is the finest brand! And for coping with every type of citrus pests—Superior insecticides. Don't delay your fall spray until Texas citrus mites or purple mites (red spiders) become numerous, causing possible defoliation. To keep application costs at a minimum, be sure to include Zineb or wettable sulphur for control of rust mites.

For expert, advance planning and for fast delivery of fall fertilizer and dormant spray, call your SUPERIOR Crop Consultant today!

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Citrus Growing Is Different In Italy

BY MARIE BOLLES
Editor, Eustis NEWS

Italy—It was almost like home.

Walking through the orange groves of Italy and Sicily in the brilliant sun and clear, cool air, Florida growers on Florida Citrus Mutual's tour gloried in Nature's showcase in familiar surroundings of the soil and her fruits.

But there was a difference.

Orange groves in Italy and Sicily are surrounded by mountains, outlined by the famous Mount Etna and Mount Vesuvious and the green-blue Mediterranean with its famous islands of Capri and Sorrento.

There were other differences, too.

Trees are planted much closer together than in Florida and in some cases closer than Israel's five feet part. Perhaps one reason for this is that there are so many small groves in Sicily. In this country there are about 150,000 acres of citrus and 60,000 grove owners. Florida has 600,000 to 625,000 acres and 12,000-13,000 grove owners.

There are thousands of Sicilian grove owners with one-half to one acre in groves, comparable to our "back-yard" citrus. These owners no doubt try to plant as many trees as possible in these small areas. The largest grove owner in Sicily has 150 acres. Many small grover owners also grow vegetables underneath their trees, wasting not one inch of the precious land.

The tendency is to widen plantings, as citrus growers here have discovered there are less operating costs and greater production in this type of grove.

Some groves here have as few as 200 trees to the hectare (2½ acres)—some 600 to 800. Florida growers plant 50 to 70 trees an acre.

The more densely planted areas require much trimming of dead wood. The trees do not grow very tall and most can be picked without ladders.

Root rot and water-logging cause most of the damage to Italy's citrus trees. Mal secco attacks lemons. The menace of the Mediterranean fruit fly is spotty, usually in areas near the Sea. Preventive measures include spray treatment with DDT at three 25-day intervals.

Italy's citrus growers control disease by spray once a year with white oil and a fumigation program every three years, the latter with the tent method. This fumigation-tent method is used here for scale (and, incidentally, is supposed to kill about everything else, too) for 30 to 50 minutes at a time, using hydocyanic acid.

Italian growers claim the dry climate here doesn't produce as many diseases as Florida's wet climate.

Citrus fruit is harvested by placing fruit in saddle baskets on donkeys in the groves, then transferring the fruit to horse-drawn carts for transportation to the packinghouses. All varieties of oranges are planted and picked together. So, in an Italian pack you don't know exactly what you're getting. Individual packing houses sell to anyone. There is no centralized marketing board as in Israel. Only the culls are used for canning.

Cost of production varies, depending on the price of water, since all growing plants in this area must be irrigated. In some places water is free. . . .in other places, quite high. Citrus production costs vary from 25 to 150 liras per kilo (2½ pounds), which is higher than Florida's costs, in spite of lower wages here ($2.25 per day is tops).

Planting on sour orange stock, Sicily produces 80 percent of all Italian citrus and 90 percent of Italy's lemons. Last year Italy produced 27,100,000 boxes of oranges and tangerines and 10,700,000 boxes of lemons.

Considerable hand labor is necessary in Italy's groves because close planting and terraced plantings make it impossible to use tractors. Irrigation methods include overhead spray, gravity feeding and the sprinkler system.

The most amazing thing in Italy from agriculturists' point of view is the growing of deciduous fruits side by side with citrus. This cannot be done in Florida, so I'm told. Even in California, such fruits grow in separate areas. In one orange grove we ate walnuts from a walnut tree planted next to an orange tree. And nearby we saw blackberries, apples, peaches, olives figs, apricots, grapes, plums, cabbage, sugar beets, watermelons and wheat.

PATRONIZE CITRUS INDUSTRY ADVERTISERS

Packing Houses Purchase New Equipment

Eight Florida fresh citrus packing houses have indicated "continuing confidence in the Florida fresh citrus deal" by purchasing new equipment to increase efficiency and production as the season gets underway.

The eight houses have installed automatic machines to close wire-bound crates, the container which carries most of the state's fresh citrus to market.

According to Jim Pollard of Package Research Laboratory, manufacturer of the equipment, separate machines will handle 1,300 half Bruce wirebounds or 900 1-3/5 bu. Bruces per hour. An experienced worker can close about a fourth as many.

Heller Brothers Packing Co. in Winter Garden, Adams Packing Co., Auburndale, and Plymouth Citrus Growers Assn., Plymouth, are utilizing automatic closing machines for these wirebound containers.

Mount Dora Growers Cooperative is adding a 1-3/5 bu. machine.

Putting in half Bruce closers are Lake Region Packing Assn., Tavares, Lake Hamilton Cooperative, Inc., Lake Hamilton, Grand Island Citrus Cooperative, Umatilla, and Dundee Citrus Growers Association, Dundee.

Heller Brothers, Mount Dora and Lake Region are adding machines, having acquired others previously.

Pollard said 37 packing houses in Florida are now utilizing 53 automatic closers, noting they are also used with with fresh vegetable wirebound containers.

MUNROE NOW ON SOIL CONSERVATION BOARD

W. Bradley Munroe, Quincy, has been named to the State Soil Conservation Board, succeeding R. L. Price, Graceville, who died earlier this year.

At its organization meeting recently the board reelected E. E. Carter, Vero Beach, chairman, and Lyle C. Dickman, Ruskin, vice chairman. It also renamed Dr. M. O. Watkins administrator and L. M. Hollingsworth executive secretary. Both are from Gainesville.

Additional members are Eugene Muggs, Greenville, and Douglas Igou, Eustis.

PHYSICAL SCIENCE

Two chemists, standing in a street corner, carefully observed a glamorous girl who passed by.

Said the first chemist: "Now there's an arrangement of molecules for you!"

Waverly Growers President Looks To Good Season

BY W. C. PEDERSEN

We are now able to ship all varieties of grapefruit by practicing spot picking. When the new season gets under way it brings to mind the vast number of people that make their living from the Florida citrus industry. The people directly connected with it—growers, grove hands, packing house and cannery employees—represent only a few.

All the people that make and sell supplies and the people that supply them, profit from the citrus industry, as do railroad stockholders and their employees, merchants in Florida and in the north. It is difficult to estimate how many do benefit from each dollar returned for citrus sold outside the State of Florida. One thing sure is that if we ever have a blank season, many will find out.

Although Waverly lost a lot of fruit in the storm we still have left more fruit than we had last year, with the exception of Marsh seedless grapefruit. All varieties seem to be of better quality than last year, which was not a vintage year. There is no doubt that before the storm this area of the State had the finest quality of fruit it had produced in years.

Fruit was thin skinned and full of juice long before it met the required State test. Now that we are shipping, we find that we are still able to get good packouts even though some fruit has scars and scratches.

Florida Citrus Mutual is predicting that oranges will be worth 50 cents per pound of solids delivered to packing house or cannery. This price will mean an average for the season of about $2.50 on the tree. In order to get this price it will be necessary to keep all avenues of distribution open.

There should be a good balance between prices received for fresh shipments, chilled juice and salad fruit, and fruit for concentrate. If we are able to channel a reasonable amount of fruit to each of these outlets we should have a good market all year.

The quality and the reduced quantity of grapefruit this season should do much to get this fine fruit back in the good graces of Mrs. Buyer. The fruit now the trees appears to be thin skinned, smooth, flat, and not high in acid content. It is my opinion that after Christmas the market will find some of the best eating quality grapefruit that Florida has produced in a very long time.

Nothing stimulates the sale of a product like having a product of good quality to sell. I feel this will be the case this year with our grapefruit.

While we still have more tangerines left on the trees than last year, there is not an over-supply of this fruit. Most crops have the fruit hanging singly, which means better shaped and colored fruit. The fact that part of the crop has been blown off the trees and that we have had plenty of moisture, would lead one to believe that sizes will be comparatively large.

This should help tangerine sales, as few people are attracted to purchase this fruit if sizes are small. The dry, cool weather we are now having should help to mature the crop and bring about good color.

If you have grown fat, accept the loss of symmetry as the design of nature and the wisdom of your Creator.

Does YOUR Grove Need Hedging?

The **Kwik-Cut** electric power saw is the most versatile hedging tool yet devised and the cost is a small fraction of other more complicated hedging machines. No scarred "brushed by" limbs that require cleaning up, no canopy left at top to shade out sunlight in the middles. Trees can be tapered to the top in order to give more bearing surface and better spray penetration.

Compare any grove hedged with the **Kwik-Kut** hedging saws with one hedged with the conventional tower machine and judge for yourself.

And the cost! — A complete **Kwik-Kut** hedging outfit — 2 saws, portable 1500 watt generator with 2 30-foot extension cords — $736.00.

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Reports Of Our Field Men . . .

NORTH CENTRAL FLORIDA

V. E. Bourland
Winter Garden, Fla.
Phone 107

We are having some beautiful sunshiny days, but still some rain, had about a 2-inch one this week. Since sun has been shining there are a lot of trees in low land showing wilt, and some dead. Fruit is still dropping from effects of Donna. Lots of splits, and it seems to be worse in Hamlin groves. Some fertilizing being done, also lots of Dolomite being used. Some grapefruit are being picked, and a few early oranges. Young trees have been worked out, and majority are looking good. There is quite a bit of dusting and spraying going on.

Truck farmers are still working seed beds, and some plants being set. Pastures are still green, and cattle are looking very good, especially on improved pastures.

SOUTH POLK, HIGHLANDS, HARDEE AND DeSOTO COUNTIES

C. R. Wingfield
Phone: Glendale 3-4537
Avon Park, Fla.

We are still digging out of the debris of Hurricane Donna but hope to be able to get things back to normal, as far as possible, very soon. Excess water conditions have been a major problem in most of the areas covered. Since the storm and until October 17 we would have rains at regular intervals somewhere in the territory ranging from 2 to 5 inches. This on top of storm damage will continue to be a problem. Citrus trees are recovering rapidly where water is not so great a problem and have put on a good growth where the foliage was lost. Where fertilizer could be applied it has been a great help with new growth maturity. Many growers have applied the fall fertilizer application. Others will follow as soon as cover crops can be worked down.

Droppage of fruit is above normal although it will ease off somewhat when the weather improves.

Buying activity has been rather spotted. Guess this is due to the slow cleanup jobs in groves that were badly damaged. Grapefruit movements are increasing with some oranges also. The prices offered are some better than before the storm.

The vegetable growers have had their troubles also but some cucumbers will move from Hardee County by the time of this publication.

SOUTH HILLSBOROUGH, MANATEE AND SARASOTA COUNTIES

R. C. Revels, Jr.
P. O. Box 3332, Apollo Beach, Fla.

Tomatoes in this area are looking much better now with some of the crops setting fruit. Most of the farmers have staked the plants and the fields are beginning to take shape. There is very little disease evident at this time.

The potato and cabbage growers have their fields in good shape having planted the seed potatoes and either set or planted cabbage.

Most of the citrus growers have fertilized by this time for the fall. The groves have a lot of new growth coming out on the damaged limbs resulting from the storm. Growers should keep a close watch on their groves for mites as these pests usually are plentiful following a storm. It might be necessary to put on a fall miticide a little earlier than usual if the mites show up.

Some early grapefruit have been picked, however, most of the fruit is small and will have to wait for sizing.

HILLSBOROUGH, PASCO AND SUMTER COUNTIES

C. W. Dean
Gibsonton, Fla.
Phone Tampa 40-2592

Fruit is continuing to split in most groves but not as bad as had split two to three weeks prior to now.

Grapefruit is beginning to be seen on the highways moving towards the packing houses. There is lots of activity in the various groves with the fruit buyers and growers trying to get together with what looks like a prosperous year for each of them.

Rust mites seem to be on the increase in some groves which should be taken care of to maintain the quality of fruit you may have. Some groves have been sprayed for these mites and some have been dusted.

Fruit size in most groves is good. Some groves are still very wet and others could use some rain as young trees are beginning to show wilt.

If you have a problem, let it be our problem. We are prepared to assist you in any way.

WEST HILLSBOROUGH, PASCO AND PINELLAS COUNTIES

Calvin P. Lloyd, III
Tampa, Fla.

The groves in this area of the state in general look very good. We have had some rain since the hurricane was not needed in some low areas, but the soil is drying out in most groves. The trees are looking much better and some have a heavy growth flush.

Scale does not seem to be a problem but the rust mite seems to be coming back at a fast pace. Spider mites have not shown up as yet, but they are to be expected very soon.

The fruit is beginning to size up faster now, but it is smaller in most groves than it should be this time of year.

Most of the growers are very busy with cultivation this time of year. The young trees should be hoed and the cover crop should soon be cut under with the coming of fall which is now truly here as is evidenced by these few cool mornings we have had.

Lyons Fertilizers

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ADVERTISEMENT — LYONS FERTILIZER COMPANY

Uncle Bill Says:

The chill in the air these mornin's tells us that Fall is right on us . . . and the fact that some of our fruit has already bin shipped to market is another sign that the present season is under way.

The 73rd annual meeting of the Florida State Horticultural Society was held in Tampa last week and while we've reached the age where attendin' conventions don't have the appeal they used to have when we were younger, this meeting, as all meetings of this Society, had a lot of mighty informative papers presented and couldn't help but be of value to those who heard 'em.

That's one thing about this business . . . they is always new methods and new things which are bein' designed to help us growers improve our crops. . . 'n it is to the everlastin' credit of the members of the industry that most of 'em are always lookin' fer the latest methods of increasin' the size 'n quality of their crops.

Hurricanes, drouths, floods, pests 'n the like, come to plague us growers purty regularly, but the fact that the citrus industry is constantly growin' bigger 'n better marks the members of this industry as purty special folks . . . we're glad to be identified with it.

One of the firms which has kept up to date on methods and ingredients from the very start of their business some 40 years ago is the Lyons Fertilizer Company . . . always alert to any new and proven thing which will help their customers' crops they've been able to say with complete honesty from the very beginnin' that Lyons Fertilizers Produce Maximum Crops of Finest Quality.

We know from personal experience this slogan is completely justified . . . and you too can prove it to yourself if you'll make use of this splendid fertilizer.

USDA Proposes Revised Standards For Fla. Citrus Grades

Revised U. S. Standards for grades of Florida oranges, tangelos, grapefruit, and tangerines have been proposed by the U. S. Department of Agriculture. These proposed standards were developed at the request of the Florida citrus industry to bring existing standards into better conformity with current marketing practices.

The revision in the standards for oranges and tangelos, and for grapefruit includes changes in the U. S. No. 1 Bright, Bronze and Russet grades. Amount of discoloration permitted in the U. S. No. 1 Bright grade would be increased from one-tenth to one-fifth of the surface area affected.

The revised standards would result in a better appearing, more uniform Bronze grade, accomplishing this by changing allowances for certain types of discoloration from the Bronze to the Russet grade. A change proposed in the definitions for color in both the U. S. No. 1 and No. 2 grades would provide that discoloration be disregarded when evaluating ground color.

In the standards for tangerines, the color definition in the U. S. No. 1 grade would increase the amount of green color permitted, with the remainder of the surface area to have yellow or better ground color.

In all standards, the application of tolerances for individual containers would be modified and a number of changes would be made to clarify existing definitions.

These proposed standards contain changes from a preliminary draft which was given wide circulation among interested persons in the Florida citrus industry.

PAINT CAN INCREASE BUILDING'S LIFE 40%

The life span of farm buildings can be increased by as much as 40 per cent merely by keeping them painted.

Engineers with the Florida Agricultural Extension Service say you can't wait until deterioration starts and then paint if you want to get the best use of your paint.

Buildings should be painted soon after construction, and again as needed throughout the lifetime of the building.

AMERICAN FOODS FOR BETTER LIVING FEATURED AT LONDON FAIR

"Better Food for Better Living from America" was the theme of the U. S. Department of Agriculture market promotion exhibit planned for the British Food Fair in London Sept. 1-17.

The exhibit demonstrated the availability, quality, and uses of U.S. food products, and is expected to increase the demand for those products in Britain and continental Europe.

Included in the display were wheat and wheat products; honey; canned and precooked (including frozen) poultry; nonfat dry milk; rice, fresh, canned, and dried fruits; soybean products; meat and lard, and other packaged and frozen foods.

To increase familiarity with the products, some were sold to exhibit visitors. Products for sale include honey, canned half-chicken, rice and some frozen or packaged "convenience" foods.

The British Food Fair is one of the world's largest international trade fairs. The 1958 Fair — at which a U.S. agricultural exhibit also was presented — drew over 300,000 people from European countries.

The United Kingdom is the world's largest buyer of U.S. farm products, as well as the world's largest agricultural importer. The U.S. exhibit has been designed to expand British use of American foods even more.

The exhibit was presented in cooperation with U.S. private trade groups as part of USDA's continuing program of foreign agricultural market development.

Private trade groups joining with the Department in the London exhibit included:

The U.S. fruit industry; Grocery Manufacturers of America, Inc.; Great Plains Wheat Market Development Association, with European offices in Rotterdam; Institute of American Poultry Industries, with European offices in Frankfurt; Soybean Council of America, with European offices in Rome; U.S. Rice Export Development Association; the American Meat Institute; the Dairy Society International; and the Honey Industry Council of America.

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Crops Suffering From High Water Level

Excessive high water throughout most of Florida's citrus belt is causing concern to growers, Robert W. Rutledge, Florida Citrus Mutual executive vice president, said recently in a 19-county crop condition report.

Rutledge noted one grower member in Hardee county said "it isn't getting wetter, the water is just getting deeper."

"Trees that were defoliated by the hurricane are putting out an excellent recovery growth but in some areas fruit continues to drop from injuries received from high wind," Rutledge said.

The report, compiled by Mutual field representatives, is a representative sampling and "not all inclusive," Rutledge said.

Excerpts from the report by counties:

POLK—High ground water levels is causing damaging wet spots in many groves. Fruit drop since the hurricane has been material in most cases but has practically ceased now. Improvement of fruit sizes on tree is expected as a result of the reduced tree crop due to hurricane.

LAKE, CITRUS and SUMTER—Trees in higher land areas are in good condition with good foliage. Droppage of fruit is about normal although it was severe immediately following the hurricane. Early and midseason oranges generally have heavier crop than last year with small sizes prevailing. Fruit buyers are active in this area.

HARDEE—Growers are generally engaged in cleaning up debris in groves left by hurricane. Excess water continues to be the major problem. There has been a number of offers fo Valencia oranges but few sales.

ORANGE, OSCEOLA and SEMINOLE—Water damage ranges from trees in wilt to defoliation and some dead trees. New growth on trees following hurricane has been exceptional on trees that lost foliage. In some groves fruit splitting is more serious but generally it is about normal. Fruit quality is good but sizes are small.

HILLSBOROUGH—Splitting is the chief cause of the present drop. Splitting is more serious on Hamlins and seedings than other varieties. Amount of fruit drop varies widely from grove to grove in the same area.

PASCO and HERNANDO—Fruit droppage continues and is more severe in Hamlins and seedlings than other varieties. There is also some splitting in these varieties.

PINELLAS—Heavy rains are adding to the problem of excessive moisture in this county. Most fruit loss is due to splitting and is worse on Hamlin oranges.

VOLUSIA and PUTNAM—Trees exposed to hurricane winds are showing abundant new growth on defoliated limbs. Tangerines are beginning to size with only a normal amount of splitting.

MARION—Some groves are showing excessive splits now. Fruit quality is generally good. Buying activity is slow as most of the early and midseason oranges have been previously committed.

HIGHLANDS—General appearance of groves in this county is good. Dropping of fruit continues in all varieties of oranges and grapefruit but is lightest on Valencias.

DeSOTO—Grove conditions, especially in old groves, look bad. There is no unusual splitting of oranges but droppage continues high on all varieties.

LEE and HENDRY—Some fertilization and cultivation has started but this is not general. There is some water damage in low areas but this is not too serious.

MANATEE and SARASOTA—Tree condition is generally good with new foliage growth very good on healthy trees. Damaged trees are being cleared out or straightened up.

ST. LUCIE and INDIAN RIVER Counties—Tree condition good. Splitting above normal in all orange varieties, caused by winds and moisture but no water damage to trees.

BREVARD—Conditions here as in lower Indian River area except some water damage to trees in low ground locations.

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BY GLADYS KENDALL
Home Industries and Marketing Specialist

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For the family who plans ahead and anticipates its needs, buying out of season and during sales gives more dollars to spend or save.

Good buymanship can't rest with something learned today. Wise shopping is an endless process.

Never before in world history have so many people been so well fed by so few farmers as in the United States today. —Dr. M. R. Clarkson, USDA.

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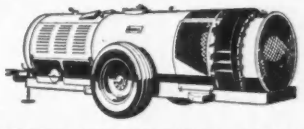

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73rd Florida Horticultural Society Meeting Big Success

The 73rd annual meeting of the Florida State Horticultural Society held in Tampa the last week in October was generally regarded as among the best in the history of the society.

Mrs. Ruth S. Wedgeworth, of Belle Glade, an attractive widow, was named, unanimously, to head Florida State Horticultural Society. Long active in the society and in Florida Fruit and Vegetable Association, she is one of the state's leading producers of celery, and operates cattle ranches.

Elected during the society's 73rd annual meeting at Hotel Hillsboro, Mrs. Wedgeworth succeeds W. L. (Tommy) Thompson, Florida Citrus Experiment Station scientist at Lake Alfred. Reelected were the society's other general officers—Dr. E. L. Spencer, Bradenton, secretary; R. R. Reed, Tampa, treasurer; R. P. Thompson, Winter Haven, publications secretary; and W. L. Tait, Winter Haven, editing secretary. Sectional vice presidents for '60-61 are G. R. Stearns, Lake Alfred, for citrus; V. F. Nettles, University of Florida, Gainesville, vegetables; Gray Singleton, Lakeland, packing and processing (formerly only "processing" alone by title); R. W. Harkness, Homestead, Krome Memorial (tropical fruits); and L. A. McFadden, Homestead ornamentals.

Placed, at large, on the executive committee were W. L. Thompson, Lake Alfred; Howard A. Thulberry, Lake Wales; Fred Wesemeyer, Fort Myers; Ralph F. Jones, Jacksonville; and R. V. (Red) Phillips, Haines City.

The society, whose members filled the ballroom of the Hotel Hillsboro, heard morning addresses by Doyle Conner, incoming state commissioner of agriculture; Society President Thompson and Thullberry. Sectional meetings were held during the afternoon.

The society's annual banquet was held at the hotel, Doyle E. Carlton, Sr., of Tampa, former governor, citrus grower and rancher, was master of ceremonies.

The sectional meetings were devoted to the presentation of technical papers by scientists, touching upon the many facets of agricultural production, processing, shipping and marketing.

Mayor Julian Lane welcomed the visitors — and announced that the city was "taking care of" all the parking tickets which a zealous patrolman handed out to the visitors unloading luggage in front of the Hillsboro hotel. The crowd applauded.

Wives and children of the society members toured Busch Gardens. Lane proudly called attention to the fact that the Gardens, to which admission is free, draw more visitors than either Cypress Gardens or Silver Springs.

The 1961 convention was awarded to Hollywood Beach.

Thullberry, official of Superior Fertilizer & Chemical Co., told the crowd that agriculture is not getting its due share of state appropriations derived from the tax dollar.

The current biennium general appropriations bill of the state totals $702,038,708, he said; but for agriculture and forestry the total was only $22,963,813 or 3.27 per cent of the total. The schools (65 per cent), courts and prisons, welfare and alcoholic rehabilitation programs, and welfare get most of the money, he said.

Few of the legislative-appropriated dollars go for research and development of agriculture, producing some $3,243,520,000 annually in Florida; forestry, $453,792,000; fisheries, $29,487,000; manufacturing (1956), $1,168,665,000, and tourism, (1955), $1,008,000,000, Thullberry protested. Those income-producing assets were bolstered, altogether, by only 4.27 per cent of the state appropriation, he said.

The society, by resolutions:

Asked Florida Agricultural Council to call upon the state legislature and budget commission to provide "adequate funds" for the state's agricultural agencies and research units.

Commended the work of the state's agricultural experiment stations, agricultural extension service, the U.S. Department of Agriculture, U.S. Food and Drug Administration and the USDA's pesticide control branch.

Conner, introduced by State Rep. Ben Hill Griffin, Jr., of Frostproof, explained that in January the commissioner's office will take over duties of the state livestock boards and state plant board. He said he will make full use of the services of the 20-man state agricultural advisory board created by law; and he pointed out that authorized changes in the office of the commissioner will require the addition of another $3,000,000 (biennium) and 500 more regular employees by that office.

Both Conner and the society generally paid vocal tribute to the memory and record of the late Nathan Mayo, commissioner of agriculture. Conner, too, praised the "cooperation" he is receiving from the outgoing commissioner, Lee Thompson—but he didn't say he will retain the veteran Thompson on his staff.

The outgoing president of the society, Thompson, told members that it has four members—George H. Wedgeworth, Frank L. Holland, J. R. Graves and John H. Logan—on Florida Agricultural Council. The council meets at Gainesville on Nov. 10, Holland said.

Florida State Horticultural Society, the nation's oldest, was organized in 1888, Thompson pointed out; and volumes of its proceedings (copies may still be purchased) are the history of Florida's advances against freezes, plant diseases and insect pests.

Fruit-Drop Chemical Approved For Citrus

A chemical designed to prevent citrus fruit-drop, 2,4,5-TP, has been cleared for use on Florida groves, according to Jack McCown, citrus adviser for the Florida Agricultural Extension Service's Pesticide Information Center.

McCown says this material has been recommended for use on Pineapple, Temple and Seedling oranges this fall to prevent preharvest drop. Recommended time of application is in October or November, but not later than January 1.

Since 2,4,5-TP is now cleared for use, McCown says the recommendations found in the 1959 Better Fruit Program will be applicable.

Frozen concentrated orange juice, chilled orange juice, canned orange juice, canned orange drink, and pineapple-grapefruit drink were bought in substantial volume by home consumers in May 1960. Purchases of canned orange juice and canned grapefruit sections were up sharply from the low levels of a year earlier.

Concentrate Sale Pace Gains Over Past Year

Frozen orange concentrate remains well ahead of last year's sales pace to date, according to the latest information from Market Research Corporation of America.

The report for the week ending Oct. 15 indicated frozen orange concentrate sales were up 29 per cent over the same period last year, with 58,402,000 gallons sold thus far this season.

It was also selling slightly higher per six-ounce can during the last week covered by the report. The orange concentrate was reported selling at an average of 18.9 cents a can, compared to 18.6 the previous week.

However, this is 3.4 cents under the market price last year at this time, according to the report.

Canned Grapefruit Sales Down

Canned grapefruit juice was off 16 per cent for the week and down 20 per cent to date for the year, the report stated. During the last period, 140,000 cases of single-strength grapefruit were sold at an average price of 30 cents per 46-ounce can. This was one-half cent below the price a year ago.

Canned orange juice showed a seven per cent sales gain for the week over last year, but a drop of 31 per cent from the previous week. But sales were still averaging 12 per cent above last year.

The report is based on a survey of 6,000 families and does not include bulk or institutional sales.

In the citrus export field, Robert W. Rutledge, Florida Citrus Mutual executive vice president, said export sales potentials for Florida's frozen orange and grapefruit concentrate are almost unlimited, provided dollar restrictions against citrus products are removed. This comment was made in a report on European citrus conditions.

California-Arizona Lemon Administrative Committee Named

Appointment of 12 members and alternates to the California-Arizona Lemon Marketing Agreement and Order Administrative Committee was announced recently by the U. S. Department of Agriculture. The committee will serve until Oct. 31, 1962.

Members and alternates, all from California except one alternate from Arizona, are: Glen Shepherd, Etiwanda, and R. L. Fletcher, Phoenix, Ariz.; E. A. Hooker, Camarillo, and Robert A. Hardison, Santa Paula; R. L. Hampton, Corona, and Donald M. Tyrrell, Porterville; Earl G. Johnstone, Jr., Santa Barbara, and Garrett Van Horne, Goleta; Glen A. Harris, La Habra, and Jack Singer, Claremont; Willard B. Gerry, Camarillo, and Carl G. Samuelson, Ventura.

J. Van Benschoten, Rancho Santa Fe, and Erno Bonebakker, Carpinteria; Bernardo M. Yorba, Anaheim, and Theodore Sherman Schnack, Riverside; John L. Powell and Alfred F. Rose, both of San Marino; M. D. Street, Los Angeles, and Floyd I. Burrill, San Gabriel; Virgil H. Tyler and Cecil H. Watt, both of Ventura; John M. Van Horn, Santa Ana, and N. E. Faessel, Los Angeles.

One of the principal functions of the Lemon Administrative Committee is to recommend to the Secretary of Agriculture, after investigation of supply, demand, and other marketing conditions, the quantity of lemons which should be shipped weekly from California and Arizona. The committee may also recommend restriction to specified sizes of lemons to be shipped.

THE "DIRECT DISTRIBUTION PROGRAM" FOR SURPLUS FOODS

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Manganese as MnO	not less than 2%	3.61%
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Citrus Sales Potential Great In Foreign Market

Export sales potentials for Florida's frozen orange and grapefruit concentrate are almost "unlimited" provided Dollar restrictions against citrus products are completely removed, Robert W. Rutledge, Florida Citrus Mutual executive vice president, said recently in a report on European citrus conditions.

Rutledge said the report, which includes export prospects, market situations and grove conditions in Europe, was compiled by Martin Hearn, Mutual's export coordinator who accompanied Mutual members on the recent world citrus tour.

Excerpts from the European and Middle Eastern report by countries:

ISRAEL — Approximately 30,000 acres in full bearing groves with another 60,000 acres in new plantings. Production expected to jump from 15½ million boxes to 20 million boxes by 1965.

GREAT BRITAIN—Britain is the giant in Europe's juice market . . . consumes more than half of all the juices sold in Europe. Mutual is working to have all trade barriers removed both on fresh and processed Florida citrus for Britain.

WEST GERMANY—Juices, particularly citrus are becoming increasingly important in the West German diet. Florida has quite an opportunity to increase its share of this market.

SWITZERLAND—A small but excellent market for Florida canned juices.

FRANCE—France offers the best opportunities for fresh Florida grapefruit. Once the present barriers against Dollar goods are removed there will be a growing demand for high Brix juices for bottling purposes.

BELGIUM, NETHERLANDS and LUXUMBURG — Still an important outlet for both fresh and processed Florida citrus. Florida canned juices are on sale in most major stores but there is increasing competition from Israel.

ITALY and SICILY—Present annual citrus production 37 million boxes of oranges and lemons is increasing rapidly because of exclusively oranges.

SPAIN—Spain's citrus acreage has shifted southward since the freezes of 1954. The Valencia district with greater frost hazards is declining in importance.

MOROCCO — Extensive new plantings are reported in this country. Morocco produces one of the finest Mediterranean oranges and is becoming important as a competitor in all Northern European outlets.

EARLY VARIETIES CONTINUE TO BRING ATTRACTIVE PRICES

Early varieties of Florida oranges continue to move to market this week at prices mostly $5.00 to $6.50 per box FOB packinghouse depending on size and variety, Robert W. Rutledge, Florida Citrus Mutual executive vice president, said this week.

He said fresh orange shipments will total approximately 500 cars this week depending on weather conditions for picking. This is up from the 261 cars shipped last week. There are 500 one and three-fifths bushel boxes to the car.

"The increasing orange supply as the season advances will cause a gradual FOB price ease," Rutledge said. "This will be a slow natural easing with no drastic price drop anticipated."

The New York market reports demand for Florida oranges and grapefruit has been generally good at the going prices.

Current grapefruit prices range from $3.00 to $3.50 per box FOB packinghouse depending on size and variety with a few $3.75 offers being reported. There is a possibility of price strengthening on grapefruit by the end of the week, Rutledge said.

Rutledge said price quotations are based on interior fruit as of Oct. 31. Indian River and other premium brands are generally higher.

ACREAGE ALLOTMENT FOR PEANUTS IS SET

Florida's 1961 peanut acreage allotment, recently announced by the United States Department of Agriculture, is 55,259 acres, according to O. P. McArthur, state administrative officer with the Agricultural Stabilization and Conservation Commitee.

Marketing quotas for the year have already been approved by growers. County and farm allotments will be determined early in December.

Spuds Johnson says you cannot farm today with yesterday's methods and be in business tomorrow.

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Write the MAJESTIC today!

PEST CONTROL COURSE SET NOVEMBER 14-16

A three-day short course on structural pest control will be held at the University of Florida November 14-16.

The program is sponsored by the University's Department of Entomology and the Florida Pest Control Association. Speakers will represent many divisions of the University and the pest control industry.

The formal program will begin at 9 a.m. November 14 in Dan McCarty Hall on the University campus. Registrants will be divided into two groups for the three-day session. One group will consist of owners and branch managers of pest control firms and the other will include service personnel and applicants for examination.

Discussion topics for the meetings include fumigation, ethical competition, structural pest control laws, turf management and pest control, employee relations, insect resistance, mosquita control, general household pests, marketing, pricing and advertising.

Association officers include Leon W. Payne, West Palm Beach, president, and William B. Clements, Leesburg, secretary.

EXTENSION DIRECTOR LISTS STAFF CHANGES

Two appointments, one transfer and one resignation are among staff changes announced by Dr. M. O. Watkins, director of the Florida Agricultural Extension Service.

Dr. Stanley J. Pieczarka was appointed to the state staff as assistant vegetable crops specialist November 1, replacing Joseph D. Norton who resigned. The new specialist graduated from the University of Massachusetts and completed graduate work at Purdue University. He has been associated with a major seed company in California for the past year.

Mrs. Laura B. Burgard is the new assistant home demonstration agent in Palm Beach County, replacing Mrs. E. H. Pierce.

Larmar Bell, assistant county agent in Escambia, has transferred to the same position in Sumter County, where Donald George was promoted.

Judson T. Fulmer, assistant Suwannee County agent, resigned Oct. 31.

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In a remote area of Indo-China, a medical missionary opens a can of citrus crystals, mixes them with water and serves her husband and children orange juice, a food impossible to obtain in such an isolated area of the world less than three years ago.

Deep beneath the waters of an ocean, the atomic submarine U.S.S. Triton silently cruises along on its historic journey around the world. And throughout this entire journey, crew members drink both pure orange and grapefruit juice made from citrus cystals.

Citrus juice, one of the finest sources of vitamin C, so necessary to ensure continuing health, would not have been available to any of these people were it not for the development of pure citrus juice crystals, hailed as the third major product breakthrough in the history of citrus processing.

Today, for the first time, it is possible to have citrus juices possessing 96 per cent of the vitamin C content of fresh fruit simply by stirring dehydrated pure juice crystals, requiring no refrigeration, into water.

The story of this remarkable product is a story of faith in an idea, skill to turn the idea into a commercial reality and courage to back both, in the face of many discouragements, with cash. It is also the story of Plant Industries, Inc., a company which operates in the heart of the Florida citrus region and which is now a subsidiary of Salada-Shirriff-Horsey, the international packaged food company.

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IMMEDIATE DELIVERY—Registered Hamlin on Cleo. Registered Valencia on rough lemon. Non-registered Hamlin, Murcott, Temple on Cleo. Hamlin on sour orange. ERNEST L. AMAN, P. O. Box 158, Land O' Lakes, Florida. Phone Tampa WE 9-2684.

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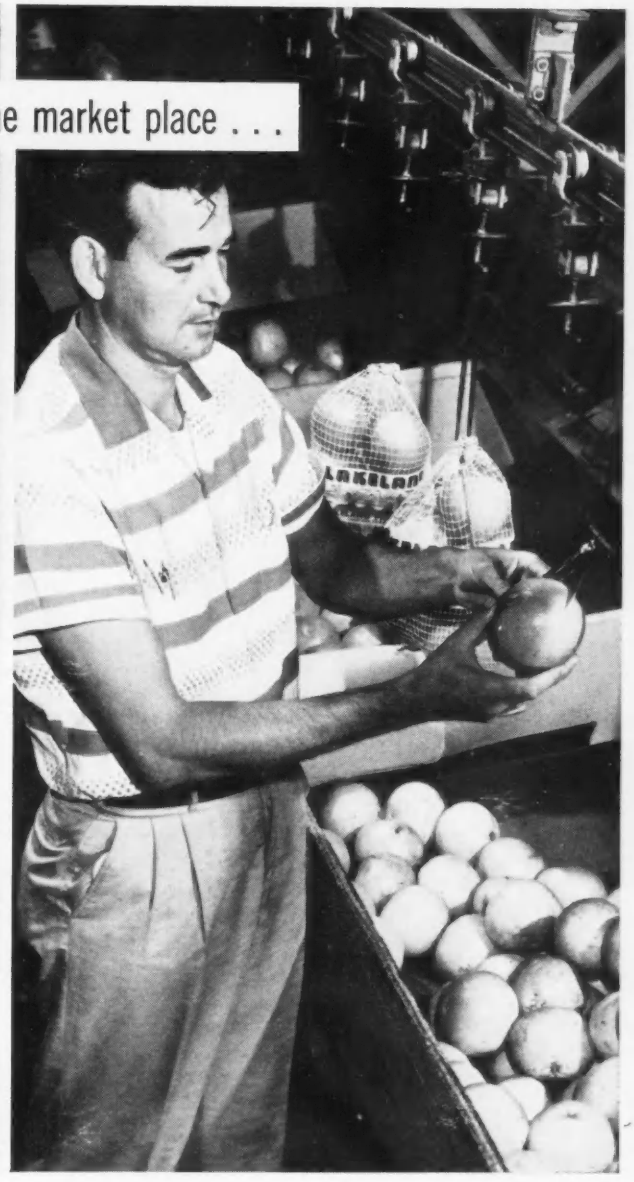

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